

**AMENDMENTS TO THE CLAIMS:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**LISTING OF CLAIMS:**

1. (Currently Amended) Polymer electrolyte for an electrochemical generator based on comprising:

[[~~-~~]] (a) at least one ~~four-branched~~ four-branched polymer having a hybrid termination, wherein at least one branch of said four branched polymer is capable of giving rise to cross-linking; and

[[~~-~~]] (b) at least one component selected from the following families:

[[~~-~~]] (b1) poly(vinylidene difluorides), also called (PVDF), of chemical formula  $(\text{CH}_2\text{-CF}_2)_n$ , where n varies between 150 and 4,000;

[[~~-~~]] (b2) poly(vinylidene fluoro-co-hexafluoropropene) copolymers, of formula  $[(\text{CH}_2\text{-CF}_2)_x(\text{CF}_2\text{-CF}(\text{CF}_3))_{1-x}]_n$  also called (PVDF-HFP), wherein n varies between 150 and 4,000;

[[~~-~~]] (b3) poly(tetrafluoroethylenes), also called (PTFE), of chemical formula  $(\text{CF}_2\text{-CF}_2)_n$ , wherein n varies from 5 to 20,000;

[[~~-~~]] (b4) poly(ethylene-co-propylene-co-5-methylene-2-norbornenes) or ethylene propylene-diene copolymers, also called EPDM;

[[~~-~~]] (b5) polyvinyl alcohol having an average molecular weight preferably between 50,000 and 1 million, or a cellulose, having an average molecular weight between 5,000 and 250,000 in which part of the OH groups are replaced by  $\text{OCH}_3$ ,  $\text{OC}_2\text{H}_5$ ,  $\text{OCH}_2\text{OH}$ ,  $\text{OC}_2\text{H}_4\text{OH}$ ,  $\text{OCH}_2\text{CH}(\text{CH}_3)\text{OH}$ ,  $\text{OC}(=\text{O})\text{CH}_3$ , or  $\text{OC}(=\text{O})\text{C}_2\text{H}_5$ ;

[[~~-~~]] (b6) ethylene oxide condensation products having an average molecular weight between 1,000 and 5,000 or ethylene oxide condensation products in admixture with propylene oxide on glycerol or trimethylolpropane, or ethylene oxide condensation products cross-linked with a di or tri-isocyanate of formula  $(\text{O}=\text{C}=\text{N})_x\text{-R}$  in which  $2 < x < 4$  and R represents an aryl or alkyl group ensuring polyfunctionality with the group  $(\text{O}=\text{C}=\text{N})_x$ ;

[[I]] (b7) poly(methylmethacrylates) also called (PMMA), of formula  $[(CH_2-C(CH_3)(CO_2CH_3))_n]$  wherein n varies between 100 and 10,000;

[[I]] (b8) poly(acrylonitriles), also called (PAN), of chemical formula  $[(CH_2-CH(CN))_n]$  in which n varies from 150 to 18,800;

[[I]] (b9)  $SiO_2-Al_2O_3$  a mixture of  $SiO_2$  and  $Al_2O_3$ ; and

[[I]] (b10) nano  $TiO_2$  ~~non-coated~~ noncoated or coated with an organic material that is compatible with a tetrafunction terminal acryloyl-modified alkylene oxide polymer, the organic material being selected from ~~the group comprising~~ at least one polyol ~~and/or~~ or at least one polyethylene-polyoxyethylene copolymer ~~and/or one inorganic material~~.

2. (Currently Amended) Polymer electrolyte according to claim 1, ~~additionally containing~~ further comprising a salt or a mixture of salts with a plasticizing agent.

3. (Original) Polymer electrolyte according to claim 2, in dry form (free solvent), obtained by adding a lithium salt or a mixture of salts (in the matrix) of the polymer in order to provide ionic conductivity.

4. (Currently Amended) Polymer electrolyte according to claim 3, in which the lithium salts are of the type:  $LiN(SO_2CF_3)_2$ ; ~~LiTFSI~~ LiTFSi;  $LiN(SO_2C_2F_5)_2$ ; BETI;  $LiC(SO_2CF_3)_3$ ;  $LiBF_4$ ;  $LiPF_6$ ;  $LiCLO_4$ ;  $LiSO_3CF_3$ ; or  $LiAsF_6$ .

5. (Previously Presented) Polymer electrolyte according to claim 2, in which the plasticizing agent consists of at least one organic solvent selected from the group consisting of: an ethylene carbonate, a propylene carbonate, a  $\gamma$ -gamma butyrolactone, a dimethyl carbonate, a diethyl carbonate, a tetra ethyl-sulfone amide, and a methyl-ethyl carbonate (EMC).

6-35. (Canceled)

36. (New) Polymer electrolyte according to claim 1, wherein the four-branched polymer has a termination that is a hybrid acrylate.

37. (New) Polymer electrolyte according to claim 1, wherein the four-branched polymer has a termination that is a methacrylate.
38. (New) Polymer electrolyte according to claim 1, wherein the four-branched polymer has a termination that is an alkoxy having 1-8 carbons.
39. (New) Polymer electrolyte according to claim 1, wherein the four-branched polymer has a termination that is methoxy or ethoxy.
40. (New) Polymer electrolyte according to claim 1, wherein the four-branched polymer has a termination that is a vinyl termination.
41. (New) Polymer electrolyte according to claim 1, wherein at least two branches of said four-branched polymer are capable of giving rise to cross-linking.
42. (New) Polymer electrolyte according to claim 1, wherein in the PVDF of (b1) the  $n$  is between 1,000 and 4,000.
43. (New) Polymer electrolyte according to claim 1, wherein in the PVDF of (b1) the average molecular weight is between 10,000 and 1 million.
44. (New) Polymer electrolyte according to claim 1, wherein in the PVDF of (b1) the average molecular weight is between 100,000 and 250,000.
45. (New) Polymer electrolyte according to claim 1, wherein in the PVDF-HFP of (b2) the  $n$  is between 1,000 and 4,000.
46. (New) Polymer electrolyte according to claim 1, wherein in the PVDF-HFP of (b2) the  $n$  is between 2,000 and 3,000.
47. (New) Polymer electrolyte according to claim 1, wherein in the PVDF-HFP of (b2) the  $x$  is between 0.12 and 0.5.

48. (New) Polymer electrolyte according to claim 1, wherein in the PVDF-HFP of (b2) the average molecular weight is between 10,000 and 1 million.

49. (New) Polymer electrolyte according to claim 1, wherein in the PVDF-HFP of (b2) the average molecular weight is between 100,000 and 250,000.

50. (New) Polymer electrolyte according to claim 1, wherein in the PTFE of (b3) the  $n$  is between 50 and 10,000.

51. (New) Polymer electrolyte according to claim 1, wherein in the PTFE of (b3) the average molecular weight is between 500 and 5 million.

52. (New) Polymer electrolyte according to claim 1, wherein in the PTFE of (b3) the average molecular weight is about 200,000.

53. (New) Polymer electrolyte according to claim 1, wherein in the EPDM of (b4) the average molecular weight is between 10,000 and 250,000.

54. (New) Polymer electrolyte according to claim 1, wherein in the EPDM of (b4) the average molecular weight is between 20,000 and 100,000.

55. (New) Polymer electrolyte according to claim 1, wherein in the PMMA of (b7) the  $n$  is between 500 and 5,000.

56. (New) Polymer electrolyte according to claim 1, wherein in the PMMA of (b7) the average molecular weight is between 10,000 and 1 million.

57. (New) Polymer electrolyte according to claim 1, wherein in the PMMA of (b7) the average molecular weight is between 50,000 and 500,000.

58. (New) Polymer electrolyte according to claim 1, wherein in the PAN of (b8) the  $n$  is between 300 and 4,000.

59. (New) Polymer electrolyte according to claim 1, wherein in the PAN of (b8) the average molecular weight is between 10,000 and 1 million.

60. (New) Polymer electrolyte according to claim 1, wherein in the PAN of (b8) the average molecular weight is between 20,000 and 200,000.